CRYPTOLOGIC FILMS THAT NEVER WON AN ACADEMY AWARD March 2

One of the actors, the director, and the writer of The Imitation Game *visiting the National Cryptologic Museum*

Usually, at this time of year, Oscar season, *History Today* reviews a movie that has a cryptologic connection but failed, often deservedly, to win an Academy Award. This year, however, we have a winner to talk about. The 2014 motion picture *The Imitation Game* was nominated for eight Academy Awards and won in one of the categories, Best Adapted Screenplay.

The Imitation Game pays tribute to the accomplishments of Dr. Alan Turing. He was the mathematics genius -- a word used carefully, not just as an enthusiastic tribute -- who made important contributions at Bletchley Park toward exploiting German cryptosystems in World War II, and whose theoretical work led to development of the modern computer. It also tells of the tribulations of a gay man in the early twentieth century. Turing was homosexual, was forced into hormonal treatments as the result of a court case, and committed suicide in 1954.

The movie is richly filmed, with good acting and a riveting story. Benedict Cumberbatch as the adult Alan Turing is especially memorable and may only have been out-acted by the young man who played the teenaged Turing as he wrestled with questions of self-identity.

The story, however, is riddled with inaccuracies. Many of them are minor if one looks at the story as a parable for today's audiences about misunderstood genius and about homosexuals in a hostile society.

A few of the inaccuracies do matter, however.

My personal opinion is that the filmmakers owe a major apology to the families of Alastair Denniston and Hugh Alexander. Denniston, the director of Bletchley Park, though he held reserve rank in the Royal Navy, had been a civilian cryptanalyst since World War I. The film portrayed him as a military martinet who opposed Turing because Turing lacked discipline and ignored the chain of command. Denniston was replaced as director at Bletchley early in the war because his management skills were not equal to an industrial-scale enterprise, but he did not harass Turing for failing to conform to expected norms of wartime behavior; in fact, he encouraged the unconventional thinking that led to successful exploitation of enemy messages.

Hugh O'Donel Alexander, twice British chess champion, went on to a long career at GCHQ after the war. The film portrays him as a bragging womanizer, but this portrayal runs contrary to all we know about him -- he was already married by the outbreak of the war and was a dedicated family man.

These two characters are likely included in the film to show how the bureaucracy reacted to Turing, and to contrast his homosexuality with the actions of an aggressive heterosexual. This doesn't bother my historical sensibilities; on the contrary, these characters help put Turing's life into perspective. I just wish the filmmakers had used false names for the characters and avoided sliming two heroic people.

The film shows Alan Turing as the center of all the successful cryptanalytic activity at Bletchley Park. Turing really was important, but he wasn't Superman. In this aspect, *The Imitation Game* reminds me of those classic "biopix" from the 1930s: young Tom Edison knows, despite all opposition, that he will grow up to invent the light bulb.

There was a Soviet spy at Bletchley Park, John Cairncross, and the movie references him. However, the film shows the spy unmasked because he used an insecure "Beale cipher" when passing secrets to the Soviets. In reality, the Beale cipher refers to a specific encrypted message from early 18th Century Virginia that is reputed to hide the location of a fabulous buried treasure; it is not a particular

kind of cipher. Note also that, despite the considerable interaction shown in the film, in real life Alan Turing and John Cairncross probably never met.

One significant inaccuracy should be noted. In the film, once Turing and a few colleagues have solved the German Navy's ENIGMA machine and proven that their analytic machine, the *bombe*, can do so on a recurring basis, Turing and these colleagues decide how the resulting intelligence, called ULTRA, will be distributed. The source is secret, even the Bletchley Park hierarchy is not to know the ENIGMA has been solved, and the Turing team calculates statistically what percentage of the decrypts will be released to the military, thus determining who will live or die in battle. This is necessary, they say, to prevent the Germans from realizing that the ENIGMA is vulnerable.

This is not true, repeat NOT TRUE. The ULTRA decrypts were distributed by the military to a select group of cleared readers, mostly senior commanders and their intelligence officers. The commanders were required to come up with a cover plan to disguise the source of their information before they could act on it. In real life, for example, Allied commanders, who were remarkably well-informed about their enemy, would order unnecessary reconnaissance or patrolling to fool the Germans about their intelligence source.

I want to emphasize that nobody died because the ENIGMA was solved; on the contrary, hundreds of thousands of Americans and British military personnel lived because of the cryptanalytic success.

Lest you think I didn't like *The Imitation Game*, let me say that I did enjoy it as a movie. It is well-written, has good performances, and raises social and political issues that remain unsettled today. It is good to see Turing getting the public recognition that he deserves, and it is good to remind us all of the unjust and tragic consequences of acting on society's prejudices.

But the factual inaccuracies affect the Intelligence Community (IC), especially the cryptologic community, in several negative ways. The film gives the public a false concept of what cryptology is and how cryptologists protect the country. *The*

Imitation Game inaccurately shows members of the IC playing God with people's lives.

If members of the public accept these inaccuracies as true to life, and it's possible some of them will, (How many of us have encountered people who think James Bond movies are documentaries?), how long before these false beliefs about cryptologic work have a direct impact on real-world activities, for example, interfering with recruiting?

It may be impossible to show the drama and excitement of real-life cryptologic work on the screen in any popular way. If this is true, we can only hope that in the future filmmakers will avoid showing it in fanciful ways that could have a negative impact on the community.